

21 Claim ~~17~~ (new). A protein-containing hydrogel comprising a polymeric matrix having at least one catalytically active peptide, protein or active portions thereof, the hydrogel further comprising,

- (a) a matrix comprising diisocyanato-PEG, wherein said hydrogel further comprises at least one catalytically active peptide, protein or active portions thereof, in direct covalent linkage with said matrix;
- (b) and further wherein the activity of the at least one peptide, protein or portions thereof, includes scavenging free radicals;

wherein, the covalent attachment to the diisocyanato-PEG matrix of the catalytically active peptides, proteins, or portions thereof, is not mediated by catalytically inactive proteins, peptide or other inactive oligomers and polymers.

D1
22 Claim ~~18~~ (new). The hydrogel of claim 17, wherein the at least one catalytically active peptide, protein, or portions thereof is selected from the group consisting of catalase, superoxide dismutase, lactoperoxidase, glutathione peroxidase, myeloperoxidase, thyroid peroxidase, or combinations thereof.

23 Claim ~~19~~ (new). The hydrogel of claim 17, wherein the at least one catalytically peptide, protein, or portions thereof, comprises at least a portion of catalase.

24 Claim ~~20~~ (new). The hydrogel of claim 17, wherein the at least one catalytically active peptide, protein, or portions thereof, comprises at least a portion of superoxide dismutase.

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Claim ~~21~~ (new). The hydrogel of claim 17, comprising one or more compounds having superoxide dismutase mimic properties, said compounds further comprising porphyrin groups.

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Claim ~~22~~ (new). The hydrogel of claim 21, wherein the compounds having superoxide dismutase mimic properties comprise one or more metal-porphyrin complexes, and wherein at least one of the metals is selected from the group consisting of iron, copper, magnesium and manganese.

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Claim ~~23~~ (new). The hydrogel of claim 17, wherein the PEG has a molecular weight of from 8,000 to 18,000 g/mol.

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Claim ~~24~~ (new). The hydrogel according to claim 17, wherein the PEGs are activated by aliphatic, aromatic or araliphatic diisocyanates.

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Claim ~~25~~ (new). The hydrogel according to claim 24, wherein the diisocyanate is 1,6 hexamethylene diisocyanate.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Applicants request that this be considered a petition therefore. Please charge the required fee to Deposit Account No. 14-1263.